



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,755	04/21/2004	Charles A. Miller	FACT-01005US0	5339

23910 7590 04/03/2006

FLIESLER MEYER, LLP  
FOUR EMBARCADERO CENTER  
SUITE 400  
SAN FRANCISCO, CA 94111

EXAMINER

NGUYEN, JIMMY

ART UNIT	PAPER NUMBER
----------	--------------

2829

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/828,755

Applicant(s)

MILLER ET AL.

Examiner

Jimmy Nguyen

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4,6,8,9 and 29-36 is/are pending in the application.
- 4a) Of the above claim(s) 37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,6,8,9 and 29-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### Response to Argument

The examiner acknowledges the amendment filed 1/17/06 with the following effect;

Applicant's arguments with respect to claims 4, 6- 9, 25 -27, 33 and 36, 37 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 4, 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohno et al (US 5,091,692).

**As to claims 4, 36,** Ohno et al disclose (fig 3) a the probe card assembly comprising a programmable controller (62) to control the provision of test signals to test probes (7) of the probe card (6) for testing components on a wafer (2) wherein the programmable controller (62) is connected through an interface (14,15) to a test system controller (50), where the test system controller (50) provides test signals to the

Art Unit: 2829

interface (15) to control testing of components on a wafer (2), wherein the interface (15) comprises one or more of a group consisting of wireless (optical interface).

3. Claims 6, 8, 29 - 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Miller et al (US 2004/0008024).

**As to claims 6, 8, 29, 30,** Miller et al teach (fig 3) a probe card assembly comprising a programmable controller (34, 36) to control the provision of test signals to test probes (48) of the probe card for testing components on a wafer (42), wherein the programmable controller (34,36) comprises a serial to parallel converter (connection of driver 54 to node 50, at node 50 the channel become parallel) configured to receive the test signals (TEST), the programmable controller (34, 36) configured to convert the test serial from serial to parallel and distribute the test signals in parallel to the test probes and the serial to parallel converter.

**As to claim 31,** Miller et al teach (fig 3) the probe card assembly wherein the serial to parallel converter (connection of driver 54 to node 50, at node 50 the channel become parallel) comprises a FPGA.

**As to claim 32,** Miller et al teach (fig 3)

A space transformer (36) supporting the test probes (48);

at least one daughter card (60, 62 or 64); and

a base PCB (tester channel board) electrically interconnected with the space transformer (36) and the at least one daughter card (60,62 or 64), wherein serial to parallel converter (at node 50) is provided on at least one of the space transformer (36).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 33 – 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al (US 2004/0008024) in view of Mori et al (US 2002/0105352).

**As to claims 9, 33 – 35**, Miller et al disclosed everything except for the probe card assembly of claim 8, wherein the serial to parallel converter comprises a serial digital to analog converter connected to receive digital test signals from the programmable controller, the digital to analog converter configured to convert the serial signals to parallel and to provide the test signals to the test probes in analog form.

On the other hand, Mori et al teach (fig 2) the probe card assembly of claim 8, a digital to analog converter (61) connected to receive digital test signals from the programmable controller (40), the digital to analog converter (61) configured to provide the test signals to the test probes in analog form.

Art Unit: 2829

It would have been obvious to one having an ordinary skill in the art at the time of the invention was made to modify the teaching of Miller et al and use the DAC as taught by Mori et al for the purpose of converting signals from the analog form to the digital form.

### **Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Nguyen whose telephone number is (703) 306-5858. The examiner can normally be reached on M- F from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ramitez Nestor, can be reached on 571 – 272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jimmy Nguyen

3/28/06

  
VINH NGUYEN  
PRIMARY EXAMINER  
A.U. 2829  
03/30/06